

Handwritten: 17/ald
9-5-03

PATENT
Docket No.: 0023-0165

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Pradeep Sindhu et al.

Application No.: 09/448,124

Filed: November 24, 1999

For: A SWITCHING DEVICE

)
)
)
)
)
)
)
)
)
)

Group Art Unit: 2664

Examiner: K.B. Yao

PETITION UNDER 37 CFR § 1.144
TO WITHDRAW RESTRICTION REQUIREMENT

U.S. Patent and Trademark Office
2011 South Clark Place
Customer Window, Mail Stop Petition
Crystal Plaza Two, Lobby Room 1B03
Arlington, VA 22202

Dear Sir:

This is a petition under 37 C.F.R. § 1.144 to withdraw the restriction requirement initially issued by the Examiner in the Office Action of January 14, 2003, traversed by the Applicants in the response of February 11, 2003, and maintained by the Examiner on May 28, 2003. On page 2 of the Office Action of May 28, 2003, the Examiner made the restriction requirement final.

In this petition, Applicants respectfully request that the restriction be withdrawn. In particular, Applicants contend that the restriction requirement is improper and should therefore be withdrawn.

*Petition Under 37 CFR §1.144
Application No.: 09/448,124*

Docket No.: 0023-0165

***The Restriction Requirement Is
Improper and Should be Withdrawn***

A proper restriction requirement requires a showing that independent or distinct inventions are claimed in a single application. 35 U.S.C. 121. The term "independent" means unconnected in design, operation, or effect, and the term "distinct" that two or more subjects as disclosed are related, but are 1) capable of separate manufacture, use, and sale as claimed AND 2) are patentable over each other MPEP 802.1. In addition, even if it is shown that the inventions are independent or distinct, there must also be a serious burden on the Examiner. MPEP 803.

In the present application, the claims recite dependent inventions that are not distinct.

In the restriction requirement dated January 14, 2003, the Examiner required restriction under 35 U.S.C. § 121 among the following groups of claims:

- I. Claims 1-35 and 42;
- II. Claims 36-39 and 43;
- III. Claim 40; and
- IV. Claim 41.

In the restriction requirement, the Examiner argues that the inventions of Groups I-IV are independent because "[i]nventions I, II, III and IV are unrelated" (restriction requirement, pg. 2). This restriction is improper. M.P.E.P. § 806.04 states, as an example, that two or more inventions are independent if they are not disclosed as capable of use together, have different modes of operation, different functions or different effects. A shoe and a locomotive are provided as examples of independent inventions.

Petition Under 37 CFR §1.144
Application No.: 09/448,124

Docket No.: 0023-0165

Applicants submit that each of Groups I-IV are capable of being used together because they are each drawn to a switching device for transferring data and flow controlling the transfer of data. For example, original claim 1 (of Group I) recites one or more line cards each including a request generator to generate a request signal to be transmitted in order to obtain an authorization to transmit data. One or more destination line cards are recited, each including a grant generator to generate and send back a grant signal to a source line card in response to the request signal received at the destination line card to authorize the source line card to transmit a data cell to the destination line card. Thus, a grant signal must be received in response to generating and sending a request signal before data can be sent. Although the words "flow control" are not used, the request and grant elements of claim 1 define a device for transferring data and flow controlling the data.

Original claim 23 (of Group I), recites in a switching device having a plurality of line cards and a switch fabric therebetween for transferring data packets, a switching fabric comprising, among other things, a plurality of first stage crossbars in a first stage, each crossbar having a plurality of input ports and a plurality of output ports, each input port having a first request spray engine to receive a request signal and spray the request signal to one of the output ports in the same first stage crossbar. Applicants submit that the request signal concerns a request for authority to transmit data. Thus, the request signal implements a flow control mechanism of the switching device.

Original claim 24 (of Group I), recites,

In a switching device for transferring data packets wherein the switching device includes a plurality of line cards, a line card comprising:

Petition Under 37 CFR §1.144
Application No.: 09/448,124

Docket No.: 0023-0165

a request generator to generate a request signal to be transmitted to a destination line card in order to receive a grant signal authorizing transferring of data to the destination line card; and
a data cell transmitter to transmit a data cell to the destination line card upon receipt of the grant signal from the destination card. (emphasis added)

Applicants submit that claim 24 recites a switching device for transferring data in a flow controlled manner (a request signal is sent in order to receive a grant signal authorizing the transferring of data).

Similar to claim 24, original claim 25, recites a switching device for transferring data, comprising, among other things, a destination line card including a grant generator to generate and transmit a grant signal to a source line card to authorize the source line card to transfer data to a destination line card. Applicants submit that claim 25 recites a switching device for transferring data and flow controlling the data.

Original claim 26 (of Group I) recites,

A method for transferring data between line cards in a router, the router having a plurality of line cards and a switching fabric coupled to the line cards, the method comprising:

transmitting a request signal from a source line card to a destination line card through the switching fabric;
upon receiving the request signal at the destination line card,
sending a grant signal from the destination line card to the source line card responsive to the request signal to authorize the source line card to transfer data to the destination line card; and

transferring a data cell from the source line card to the destination line card in response to the grant signal received at the source line card.
(emphasis added)

Applicants submit that claim 26 recites a device (a router) for transferring data and that the data is flow controlled (request signals and grant signals).

Original claim 42 (of Group I) recites,

A switching device for transferring data packets, comprising:

Petition Under 37 CFR §1.144
Application No.: 09/448,124

Docket No.: 0023-0165

one or more source line cards each including a request generator to generate a request signal to be transmitted in order to obtain an authorization to transmit data;

one or more destination line cards each including a grant generator to generate and send back a grant signal to a source line card in response to the request signal received at the destination line card to authorize the source line card to transmit a data cell to the destination line card; and

a plurality of switching planes coupling the source line cards and the destination line cards, each switching plane being configured to receive and transmit the request, grant and data cell to the appropriate line cards. (emphasis added)

Applicants submit that claim 42 recites a device for transferring data in a flow controlled manner (request signals and grant signals).

Applicants further point out that the remaining claims of Group I depend from the Group I claims discussed above and are therefore drawn to a device for transferring data in a flow controlled manner.

Applicants agree with the Examiner that original claims 36-39 and 43 (Group II) are drawn to a flow control method for a switching device. Applicants submit, however, for at least the reasons discussed above, that both Group I and Group II are drawn to a device for transferring data in a flow controlled manner even though slightly different wording is used in each group. Therefore, Applicants submit that the restriction requirement regarding Groups I and II is improper and should be withdrawn.

Original claim 40 (Group III) recites,

In a switching device having a plurality of line cards and a switch fabric therebetween for transferring data packets, a method for controlling the transfer of a data packet received at a source line card to be transferred to a destination line card using the switch fabric, the method comprising:

using a probe cell to arbitrate when the data cell will be transferred including transferring the probe cell from the source line to destination line card using the switch fabric. (emphasis added)

Petition Under 37 CFR §1.144
Application No.: 09/448,124

Docket No.: 0023-0165

Applicants submit that claim 40 recites a switching device for transferring data in a flow controlled manner. The method recites flow controlling the transfer of data packets by sending a communication to determine when a packet can be sent, similar to the flow control of Groups I and II. Therefore, Applicants submit that Group III, like Groups I and II is drawn to a device for transferring data in a flow controlled manner. Therefore, the restriction requirement regarding Groups I, II and III is improper as these Groups are clearly more than related – they each define similar flow control concepts, but use different wording. Therefore, the restriction requirement is improper and should be withdrawn.

Claim 41 (Group IV) recites an apparatus for spraying a data request. Applicants submit that claim 41 recites a device for sending requests as part of a flow control scheme, and therefore is at least related to Groups I-III.

Thus, contrary to the Examiner's argument, each of Groups I-IV are related, unlike the M.P.E.P.'s necktie and a locomotive bearing example, and no argument that they are unrelated may be reasonably made. All of the claims in Groups I-IV are directed to a device for transferring data and flow control techniques. For example, the claims of Group I are drawn to a switching device for transferring data packets and using requests and grants for flow control.

In the restriction requirement, the Examiner states that the claims of Group II are drawn to a flow control method for a switching device. The claims of Group II recite, "In a switching device having a plurality of line cards and a switch fabric therebetween for transferring data packets..." Therefore, Group II concerns a device for transferring data packets.

Petition Under 37 CFR §1.144
Application No.: 09/448,124

Docket No.: 0023-0165

In the restriction requirement, the Examiner stated that Group III (claim 40) is drawn to a method for arbitrating between line cards. Claim 40 recites, "In a switching device having a plurality of line cards and a switch fabric therebetween for transferring data packets..." Therefore, Group III is drawn to a device for transferring data packets.

In the restriction requirement, the Examiner states that Group IV (claim 41) is drawn to an apparatus for spraying a data request uniformly across a plurality of output ports. Applicants submit that the data request concerns the transferring of data or data packets in a device.

Applicants submit that the claimed inventions, where not actually similar inventions, are capable of use together. In fact, for at least the reasons discussed above, all of the claims are all drawn to a device for transferring data packets and using flow control techniques. Thus, the first prong of the unrelated inventions test, "that [the inventions] are not disclosed as capable of use together," was not addressed or shown in the restriction requirement.

On page 2 of the restriction requirement, the Examiner refers to MPEP 806.05(c), which states that where the combination does not set forth the details of the subcombination as separately claimed and the subcombination has separate utility, the inventions are distinct and restriction is proper if reasons exist for insisting upon the restriction. As stated above, the claims of Group I are drawn to a device for transferring data packets. Further, as stated previously, the claims of Group I are also drawn to a device for transferring data in a flow controlled manner.

The claims of Group II also concern transferring data packets and further recite various aspects of flow control. Applicants submit, however, that the claims of Groups I

Petition Under 37 CFR §1.144
Application No.: 09/448,124

Docket No.: 0023-0165

and II do not have separate utility. Both Groups are drawn to a device for the transfer of data packets. Methods of providing flow control are used only when transferring data in order to prevent a component from being overrun with data. Thus, the methods of providing flow control do not have separate utility as suggested by the Examiner. Further, as previously argued, the claims of Group I also concern the transfer of data in a flow controlled manner.

The claim of Group III (claim 40) is drawn to a device for transferring data packets and further recites using a probe cell to arbitrate when a data cell will be transferred including transferring of the probe cell from a source line card to a destination line card using a switching fabric. Applicants submit that such a method would only be used for transferring data and that therefore, the claim of Group III does not have separate utility from Groups I and II. Further, as argued previously, original claim 40 concerns transferring data in a flow controlled manner.

The claim of Group IV (claim 41) is drawn to an apparatus for spraying a data request uniformly across a plurality of output ports. The claim concerns an apparatus for transferring data and would only be used in such an apparatus. Therefore, Applicants submit that such a claimed apparatus does not have separate utility from Groups I and II and III, which concern the transfer of data.

Even if it could be successfully argued that Groups I-IV are independent or distinct, which they are not, the second prong of a proper restriction, that the search would require a serious burden, cannot be met. For the present claims, the search required for Groups I-IV is basically coextensive, and therefore not a serious burden.

Petition Under 37 CFR §1.144
Application No.: 09/448,124

Docket No.: 0023-0165

Finally, Applicants respectfully dispute that the searches for groups I-IV are in different subclasses. For example, subclass 395.31, that the Examiner associated with Group IV, falls under subclass 395.1, which falls under subclass 389, the subclass the Examiner associated with Group I. Thus, the searches for Groups I and IV encompass the *same subclasses*, and do not constitute a "serious burden." Also, a reading of claim 40 (Group III) reveals that it is not, in fact, directed to "arbitrating between line cards," indicating that its classification in class 370, subclass 462 is incorrect.

Because the small number of remaining claims (i.e., seven) all recite flow control techniques, and the small number, if any, of additional subclasses to be searched, Applicants respectfully submit that examination of claims 36-39, 40, 41, and 43 (i.e., Groups II-IV) does not present a "serious burden" on the Examiner. The restriction requirement should be withdrawn for at least this additional reason.

Accordingly, Applicants respectfully request that the restriction requirement be withdrawn, and that all of the pending claims be examined on their respective merits.

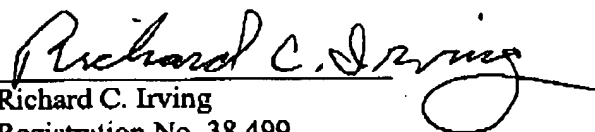
Petition Under 37 CFR §1.144
Application No.: 09/448,124

Docket No.: 0023-0165

To the extent necessary, a petition for an extension of time under 37 CFR 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY & SNYDER, L.L.P.

By: 
Richard C. Irving
Registration No. 38,499

Date: August 28, 2003

11240 Waples Mill Road
Suite 300
Fairfax, Virginia 22030
Telephone: (571) 432-0800
Facsimile: (571) 432-0808
Customer Number: 26615